

OLDEST BEE PAPER
IN AMERICA

THE AMERICAN BEE JOURNAL

ESTABLISHED
IN 1861

VOL. XIX.

CHICAGO, ILL., APRIL 18, 1883.

No. 16.

THE AMERICAN
BEE JOURNAL

Published every Wednesday, by

THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR.

New Book on Queen Rearing.

Mr. Henry Alley's new book on Queen Rearing is received, and we are very well pleased, not only with its contents, but also with its typography and binding. It is a handsome octavo of 200 pages, and contains 20 illustrations.

This is one of the subjects upon which "more light" has been demanded for some time past, by progressive apiculture, and we are glad to welcome this work of Mr. Alley on the subject, because he is a successful and experienced queen rearer, and also because he gives details of the methods he now practices, after many experiments covering a period of 22 years, during which time he has, perhaps, produced and reared more queens than any other breeder.

Of course, there are many things stated in the book which we cannot endorse, and also much that we think needs confirmation—still it is a valuable addition to the sparse literature on "Queen Rearing" now extant. Considerable of the repetition will no doubt be eliminated from the next edition.

In the Preface, Mr. Alley remarks as follows:

I need not state that this work was not intended as a literary effort, as indeed I make no pretensions in this respect. I have endeavored to present to my readers a work that will be beneficial and advantageous to them and have tried to avoid all that is superfluous or ambiguous, believing that plain, practical common sense is far preferable; and if it meets with general approval I shall rest content. I claim that my method of rearing queens is new and original, being the

results of my long experience in queen rearing and practical apiculture.

By the careful study of this work, and by putting into practice the directions herein given, one will experience no difficulty in rearing queens of a superior quality. Let it ever be our aim to rear *better* not *cheaper* queens.

We have waited long for the appearance of the work, but have lost nothing by the delay. Mr. Alley says: "The long delay in the publication of the Bee-Keepers' Handy Book, was unavoidable, and was caused mainly by the addition of nearly 75 pages to the work more than was originally intended. My readers will profit by this gain, which is a loss to me of over \$100.00." Now that it has been issued, we can cheerfully forget the delay, and attribute it to the author's inexperience in the business of publishing.

In his Introduction the author remarks as follows:

The present and future interests of apiculture demand a more thorough and practical method of rearing queens, and I shall endeavor in this work to give my readers such information as shall tend to give a new impetus to this branch of bee-keeping, and also aid, if possible, in doing away with the cheap and worthless queens produced under the lamp nursery system; and to offer to the bee-keeping public, for their careful consideration and adoption, a thorough, practical and scientific method of queen-rearing, which is the result of many long years of practical experience, and much hard study.

In order to become a successful instructor one must first attain a complete knowledge of the subject to be taught, and unless it has been thoroughly and fully mastered in all its details, failures only can result.

In presenting this work to the bee-keeping fraternity, I do not wish to assume the position of teacher, but rather to place before its readers in as plain and practical a manner as possible my method of rearing queens, leaving to their judgment the careful study, and candid criticism of its contents, feeling assured of a favorable decision regarding its merits and value; knowing that if its instructions are carefully studied in all their details, and put to a practical test, the result will be successful. By careful

attention to all the rules laid down herein, I hope better queens will be produced, a matter of great importance to the bee-keeper whether he keeps bees for pleasure or profit; and of vastly more importance to the bee-master who follows it as a vocation and depends upon the same for a living.

He then enters into details of the *modus operandi*, by which these "better queens" are produced, and describes his methods and management. A chapter is also devoted to each of the following subjects: Transferring Bees; Spring and Fall Feeding; Wintering Bees; Keeping Bees for Pleasure and Profit, and General Remarks, which includes a multitude of subjects.

Two essays are also incorporated into the work, the first being on "Management of the Apiary; or, the Production and Marketing of Honey," by G. W. House; the other is on "The New Races of Bees," by S. M. Locke. Both of these are very interesting and instructive.

This new work should be in the hands of every practical apiarist, and is worth many times its cost to any one having the care and management of bees. It can be obtained of the author, at Wenham, Mass., or at this office.

☞ Quite a number of the new subscribers, who have begun to take the JOURNAL this month, ask if we can supply the numbers from Jan. 1, 1883. We would say that we can supply a few more sets, and if any want them they must be sent for *soon*, or they cannot be obtained. We can supply no more numbers of 1882. They are all gone.

☞ The 23d annual St. Louis Fair will be held Monday, Oct. 1, to Saturday, Oct. 6, 1883, both days inclusive.

☞ Articles for publication must be written on a separate piece of paper from items of business.

Glucose—A Scrap of History.

Mr. W. H. Graves, Duncan, Ill., has sent us the *Peoria Journal*, of Feb. 13, 1883, which contains some historic items of interest on the glucose industry which has been so detrimental to honey producers. It says:

One of the curiosities of trade in these latter days, is exhibited in the rise, meridian and decline of the glucose industry. Less than five years ago the general attention of the commercial world was directed to glucose. Beginning in Germany it was first manufactured from wheat. It was carefully made by experienced chemists, who personally superintended its manufacture through every stage. An excellent product was the result, which, being placed on the market, found a ready sale at prices which yielded immense profits.

It was not long before the process of manufacturing glucose was known in the United States. Works were erected in Buffalo, N. Y., at a time when this country was in the throes of a financial panic, and when everything in the shape of labor and material could be obtained at remarkably low figures. Immense factories were erected at a minimum cost, tons of machinery were procured for about the value of old iron, corn was away down among the thirties, and labor was begging for employment. Under all these favorable conditions, the glucose factories, that were first in the field, made vast sums of money. A profit of several hundred per cent. per month, on the original investment, was only a circumstance.

New uses for the manufactured article was discovered daily. Its first extensive use was in the manufacture of confectionery. Then it became an adulterant of molasses, for which hundreds of thousands of barrels were used annually. Solidified and placed on the market as grape sugar, it was used to mix with the lower grades of cane sugars. It crept into the pharmacist's laboratory, and there made itself generally useful in several ways. The brewer hailed it joyfully, and it found a temporary abiding place in his capacious vats before lubricating many a parched esophagus, in the shape of lager beer.

Then did glucose find favor with the capitalist. It had an almost universal demand; it could be made from corn, the cheapest of grain, and the process of its manufacture was as easy as eating cheese. All that was necessary was to soak the grain in water for so many hours, grind it between burrs while wet, run the slop into tubs to allow the starch to settle, drain off the water, dump the starch into another vat with sulphuric acid to convert it into sugar, neutralize the acid by adding marble dust, strain the product, boil it down to syrup in a vacuum at a low temperature, strain through bone charcoal, and finally through felt presses, and the syrup was ready for the barrel.

Thus amazed at the apparent simplicity of the process of manufacture,

and dazzled by the tangible profits on the investment, capitalists took kindly to the new industry, and glucose factories sprung up all over the country.

About the time that everything was in readiness for turning out glucose and coining money, the country began to recover from the effects of financial depression. The price of corn advanced from 30 cents to 80 cents, at which figure the manufacture of glucose ceased to be gratifyingly profitable. Higher wages were demanded and paid, and competition, which, by this time had grown sharp, lowered the market price for the finished goods. To add still further to increasing perplexities, it was found that the process of making glucose was not so simple as it seemed. An expert chemist, at a princely salary, was a necessary adjunct to every corn sugar works, and even then not one in ten of these alleged experts could turn out a pure article at a profitable figure. Other drawbacks arose. The factories were extremely liable to destruction by fire, necessitating high insurance rates; the cane sugar crop for a year or two was abundant, and consequently reduced in price, and a new process was discovered for making cheap sugar from sorghum.

All these forces have combined to give glucose a discolored optic. Two years ago the corn sugar factories in Peoria consumed 10,000 bushels of corn a day. Now but 2,000 bushels are used daily. One of the factories burned down, and was rebuilt with only one-third of its former capacity. The other factory has been closed for nearly six months, and now stands deserted. Of 20 glucose works in the United States that were running at full capacity a year ago, only six are running to-day, and five of them are running at reduced capacities. Fortunes, instead of being made, have been swallowed up in glucose slop. Hamlin, of Buffalo, and Chaffee, of Tippecanoe, Ind., are the only men who have made fortunes at the business, and they were the first in the field.

This is the history of the glucose industry; bright at its dawn, cloudy at its noonday, and gloomy in its night—mighty but ephemeral, so does it pass before us as one of the commercial curiosities of the nineteenth century.

Seasonable Hints.—The *Indiana Farmer* gives the following hints to beginners about handling bees:

Gentleness and firmness are necessary qualities in the handling of bees. Sudden jars and quick active motions should be avoided as much as possible. During a good honey flow there is little if any danger of being stung, with anything like fair treatment for the bees. With little honey coming in, they are much more liable to resist interference. By the judicious use of smoke they may be controlled with but little trouble, and while it is not necessary to resort to this under all circumstances, it is best to have the smoker ready so that it can be used if

the occasion requires it. The construction of hives, too, has much to do with the handling of bees. The frames should hang so that they may be taken out without first having to pry them loose, for there is nothing that will arouse their anger sooner, than the sudden snapping and breaking loose of a frame. Where the frames must be pried loose, one should be provided with a strong-bladed knife, or small screw driver; pry the frames loose, one at a time very gently, loosening all of them before removing any. In fact anything about a hive that must be pried loose should be manipulated carefully.

It is the instinct of the bees to fill themselves with honey when disturbed. Smoke seems to do this more effectually, with less danger of angering them, than anything else. But the smoke has no effect on the bees only as it causes them to fill with honey. This is the object of its use and it is beneficial in no other manner, unless it be simply to drive them out of the way. They seem to fear the smoke and offer less resistance to it, although, if given too much, it may make them very angry. Preparatory to opening a hive, smoke should be blown into the entrance, not too much at once; better two light applications at short intervals.

After the bees have had time to fill themselves, remove the cover, raise gently one corner of the cloth over the frames, or what ever they may be covered with. If they still show resistance, give a little smoke at this place, and with very few exceptions they will submit to anything in reason; but bear in mind, the mashing of a bee, the dropping of a comb, or accidents of like kind may cause them to strike for liberty or death.

Bee Notes for April.—The *American Agriculturist* gives the following on the results of the past winter among the bees:

Although bees should be set on the summer stands in April, even in the more Northern regions, still they should be closely covered with warm packing. For two years we have put into our cellar chaff hives and hives with single walls, all containing bees. These were set out at the same time. The bees in single hives were closely covered with a sack containing fine sawdust. This was so long that it not only covered the hives, but reached over at each end, and hugged the division-boards that confined the brood-chamber. So far as we could discover, the bees in these hives suffered no worse from "spring dwindling" than did those kept in chaff hives. If future experience sustains this point, then the argument that chaff hives are desirable, because they are safer in spring, is of no importance. The past severe winter will enlighten us on this subject. We shall be mistaken if it does not raise cellar wintering to a premium. Such long confinement, with severe cold, is very hard on bees. If chaff hives prove equal to the situation, this winter, then their value is assured.

CORRESPONDENCE

For the American Bee Journal.

Rearing Queens—Nuclei System.

W. Z. HUTCHINSON.

I have learned that nothing is gained by commencing operations very early in the season. Colonies are weakened, brood is chilled, and queens do not lay until they are two or three weeks old; in fact, there are only unpleasant features connected with commencing before warm weather has really come to stay; which, in this latitude, is usually about the 10th or 15th of May.

My first step is to put a nice, clean, light-colored worker comb in the centre of the colony, having the queen from which I wish to breed. In three or four days I generally find this comb filled with eggs, the oldest of which are beginning to hatch into larvae. I now remove the queen and all the brood from some strong colony, shaking the bees from the brood combs back into the hives, and dividing the brood among the weakest colonies. The queen is either sold or given to a nucleus prepared expressly for her. The comb of eggs and larvae from the choice queen is now given to the queenless and "broodless" colony. I usually cut a few holes in the comb, just where the eggs are beginning to hatch, as it gives the bees better opportunities for building queen-cells. The date that the cells are to be removed, is marked upon the top-bar of the frame, and this date is also written upon a Record Board, fastened up in a conspicuous place in the shop. This board is examined each day, thus no batches of queen-cells are forgotten and neglected until some of the queens hatch and destroy the whole lot of cells. When a batch of queen-cells are taken from a hive, the date of that batch is scratched from the board, and when a new batch is started, the date that they must be removed is written upon the board. I have found nine days about the right time for leaving a comb of eggs and just-hatched larvae in a queenless colony; the brood is then all sealed over, and the queen-cells well ripened, but no queens will hatch in that length of time. I never shake the bees from a comb upon which are queen-cells, as, if the queens are not far advanced, the sudden jar will often dislodge them from their bed in the royal jelly, and they fall to the lower end of the cell where they perish, while, if they are farther advanced, but not fully developed and hardened, the result may be queens with crippled wings or legs. I place one edge of the comb upon the ground near the entrance, coax off as many bees as I can with the smoker, and then brush off the remainder with a feather. After removing the comb of eggs from the colony having the choice queen, its place is filled with another nice comb

or sheet of foundation; and in three or four days this will be filled with eggs, and can be given to another queenless colony. With 125 nuclei I have found it necessary to start a lot of queen-cells every day. I seldom allow a colony to build more than two lots of queen-cells, when I give it a laying queen.

A day or two before I expect the first lot of cells to hatch, I start as many nuclei as there are cells. Early in the season I seldom start more than one nucleus from each colony, and I do this by taking three combs with the adhering bees and placing them in a nucleus hive, taking care, of course, not to remove the old queen. At least one comb should contain brood, and it is better that a little of it should be unsealed. As the weather becomes warmer, more nuclei are formed by taking combs with the adhering bees from these three-frame nuclei, leaving only two combs in a nucleus. More nuclei are also formed by taking more combs with the adhering bees from the full colonies. If a colony can spare only one comb, it can be taken and put with a comb from another colony, and thus form a nucleus. I have had no trouble from bees quarreling when they were united or mixed up.

I consider it important to always have on hand a good stock of queen-cells. A breeder cannot rear queens at a profit if he allows some of his nuclei to remain queenless several days for lack of queen-cells.

When honey is coming in plentifully, I prefer to put a laying queen upon the combs of the nucleus at the same time that I remove the laying queen, but when there is a scarcity of honey, this plan does not seem to work so well, unless the bees are fed, as some of the young queens are killed by the bees. I have frequently introduced young queens that were three days old; and one breeder, with whom I talked last winter, says that he has often made a practice of keeping virgin queens until they were five or six days old before introducing them, they would then often become fertilized the next day after they were introduced, and five days' time would thus be gained. Before introducing, these young queens were kept confined, each queen by itself, but accompanied by a few workers against the side of a comb of honey kept hanging in the lamp nursery. The cages used to confine the queens were similar to a cover of a tin pepper box, only the tops were wire cloth; in fact, they were the cover to some discarded "Harris mailing cages." A queen and five or six workers were placed under a cover, then give the cover a turning motion, combined with a slight pressure against the surface of the comb of honey, which caused the sides to penetrate the comb sufficiently to keep the cage in place. To introduce one of these queens the bees were shaken from the combs of a nucleus upon the ground, near the entrance, the queen put into the nucleus, the nucleus closed except the entrance, and then the bees allowed to run back in. He seldom lost a queen

in introducing them, and had been unable to discover that this practice injured the queen in any respect.

One more point I consider important, and that is that no nucleus shall remain a single day without unsealed brood. Attention to this matter saves a world of trouble, and largely increases the profits.

Rogersville, Mich.

For the American Bee Journal.

Ventilation of Bees.

S. CORNEIL.

I agree with Dr. Tinker in the opinion that the only really troublesome factor with which bee-keepers have now to contend, is the best mode of winter ventilation. Sometime ago I completed a sort of digest of articles on wintering, and of everything said on the subject as reported in the proceedings of bee-keepers' conventions. This comprised all I could find relating to wintering in 36 volumes of the current periodicals, and in the standard works on bee-culture. The items, thus gleaned, were then classified and arranged under such headings as Cause of Dysentery, Cure of Dysentery, The Pollen Question, Where Wintered, Protection, Condition of Cellar, Temperature, Ventilation of Repository, Stores, Upward Ventilation, Lower Ventilation, Side Ventilation, No Ventilation, Space Below Combs, Results, etc. From reading the apparently contradictory theories and plans for wintering, scattered through the bee papers, one is often at a loss to know which method to adopt. On this subject, a prominent bee-keeper writes as follows: "The reports about wintering are so conflicting that they point to nothing definite, and I confess that I am wholly ignorant of the whole matter." But when the evidence is arranged under such headings as the above, and carefully examined, and the degree of intelligence and success of the observers are taken into account, I am quite sure my friend would agree with me that the weight of evidence is overwhelmingly in favor of the opinion that the removal of vitiated air as fast as it is produced, and the substitution of fresh air in the place of the foul air so removed, is the plan which has proven to be most successful, and that to the want of this change of air can be traced an exceedingly large proportion of the cases of disaster.

The principles constituting the science of ventilation are always the same, whether considered with respect to hives containing bees, the cellar containing the hives, or the apartments above occupied by their owner. Let us see if what is known regarding those principles cannot be made to assist in providing proper ventilation for our bees.

We are told "The necessity for change of air in inhabited spaces is rendered evident by considering the sources of contamination. They are: a. The production of carbonic acid gas by respiration. b. The increased

moisture from the same source, and from exhalations from the body. c. Heat thrown off by the occupants."

The object of ventilation, therefore, is to remove the air thus vitiated, and so substitute pure air, of the proper temperature and humidity, in its stead. We are further told, "Every person is surrounded by an envelope of vitiated air, and the thickness of this envelope is dependent upon the direction and velocity of the air past the person." This is equally true when applied to a cluster of bees instead of a person. The extent of the contamination is sometimes determined by the increased quantity of carbonic acid, and sometimes by the increased quantity of aqueous vapor found in the air. An eminent authority says: "To measure the additional amount of moisture at any point is, therefore, to determine the foulness of the air at the same point." It has been calculated that the consumption of 30 pounds of honey, by a colony of bees, will produce 140 barrels of steam, or about a barrel per day while they are in winter quarters. Suppose they only consume 10 pounds, each colony will evolve a barrel of steam every three days, a quantity so great as to make it imperative that it be ventilated out of the hive, and hustled up the chimney with as little delay as possible.

In a former article, page 728, BEE JOURNAL for 1882, I pointed out that the combustion of the saccharine part of the food produces only carbonic acid gas and water as excreta evolved by respiration and evaporation, and that the surrounding air must be in a condition to take these up as fast as produced, to keep the bees healthy. The necessity for evaporation, and the conditions under which it can be carried on, may be gathered from the following statements as regards ourselves, and they have even greater force when applied to the bees.

"For health the body must evaporate a quantity of water within certain limits. The amount evaporated, is influenced by the hygrometric condition of the air." * * * "It does not hurt a young, strong, healthy person so much to draw the water out of him too rapidly, or too sluggishly, as it does an old, feeble or sick person, but the health of the most vigorous man is gradually undermined by any extended persistence in living in air, which has either a great excess or or deficiency of moisture; and one of the greatest difficulties about it is, that in nine cases out of ten, he does not know why his health has failed." In the winter of 1880-81, we had nearly four months of excessive moisture in the air, without any break or let up to it. If there had been spells during which the air was dry, so that the bees could get dried out and take a fresh start, it is probable they would not have suffered so much. It seems to be the long continued excess of moisture that is most injurious.

The atmosphere is the great absorbent upon which we all have to depend. As remarked by the president of our Ontario convention, last fall, the so-called mechanical absorbents are

merely transmitters of moisture from the bees to the surrounding air. When intelligently handled, the atmosphere is the most efficient as well as the cheapest absorbent bee-keepers can employ. Let us examine this matter a little. Air at zero is saturated by a very small quantity of vapor, and can then absorb no more. On the 12th of December last, we had a silver frost, the temperature being down to 8° at 7 a. m. The women complained that the clothes put out on the line, would not dry as usual. The reason was, because the air was already saturated, and could not evaporate water from anything.—Suppose we take a sponge saturated with water and compress it. While compressed it may hold, say an ounce of water, but it will still be fully saturated, and can take up no more. But remove the pressure, and presently it is increased in bulk, and, although, it still contains the ounce of water, it is now thirsty for more, and is capable of absorbing several ounces in addition. At zero, 545 grains of watery vapor will saturate a cubic foot. Raise the temperature to 32°, and it will become so thirsty for vapor that it will require 2,126 grains to saturate a cubic foot, and at 70° its greed for moisture will be so increased that it will require almost 8 grains per cubic foot to produce saturation. Heating air does not dry it in the sense of taking moisture from it; it only renders it greedier for more.

I am not forgetting the fact that, although the air in the hive may be very damp yet, being of lower temperature, as it permeates the cluster and is breathed by the bees, its temperature is raised, and is in this way rendered capable of taking up the water from the body of the bee. The extent of this increased capacity will depend upon the heat of the cluster. Prof. Newport says this is sometimes as low as 30°, but I have found it to be between 60° and 70° with the surrounding air at 40°. It is doubtless owing to this fact that bees are able to live as long as they do in badly ventilated hives. But I confidently make this statement, that when vapor is produced by the cluster of bees faster than it escapes from the hive by ventilation and diffusion, or faster than it is diluted by the quantity of air contained in the hive, it is only a question of time till the bees will have to succumb to the effects of moisture and pernicious gasses, and the length of that time will depend upon the strength of the colony, the readiness with which diffusion takes place through the material surrounding the bees, the quantity of air contained in the hive to dilute the vapor and gasses, the extent of the openings for ventilation, and the relative humidity of the air entering the hive from without. People often wonder why some colonies die, while others alongside, apparently in the same condition in the fall, come through all right. It is hardly possible to find colonies exactly equal in all the above particulars. A closer examination would doubtless show differences in the conditions sufficient to account

for the different results. But we are told that the humidity of the external atmosphere has no relation to bee mortality. No engineer of eminence will be found to make the statement that the relative humidity of the external air has no relation to good ventilation. As a matter of fact, it is a factor always taken into account. In laying stress on this element in the case, I do not stand alone amongst the bee-keepers, nor can I claim priority in bringing it forward. On page 727 of the BEE JOURNAL for 1882, Mr. F. Della Torre says: "When the atmosphere outside is damp, that in the hive is more so, for it has the large amount additional from the breath of the bees added to it." On page 70 of *Gleanings* for 1882, Mr. George Grimm calls attention to this as an element of importance which has generally been overlooked. He claims that the natural moisture contained in the air affects the honey, the bee-bread, and the bees themselves, and frequently leads to disease. Mr. James Heddon says that, in his climate, "out-doors rivals the poorest cellars for damp atmosphere; in fact, it far exceeds them." If we knew exactly how damp it is, it might possibly furnish a clue in discovering the reason why dysentery "gets there" pretty badly at times in spite of his skill as a bee-keeper. One of the largest bee-keepers on the continent gave it as his opinion recently, that the air in the neighborhood of Mt. Healthy, O., is comparatively dry, and that this is one reason why Mr. J. S. Hill has been so uniformly successful in wintering, but, as in Mr. Heddon's case, we have no reliable data on the matter.

The following cases will serve to illustrate the application of the foregoing principles, and possibly be of service in helping to save some of the bees now suffering from dysentery.

On page 346, of the BEE JOURNAL for 1881, Mr. G. W. Zimmerman says, that on one occasion, when bees were dying from dysentery, his 65 colonies were uneasy, very wet and distended. He heated a room with a stove, removed the quilts and entrance blocks. "All the bees that were affected with dysentery came out over the hives. I did this twice from evening till midnight, keeping the room dark. They all dried off and clustered quickly back in their hives again. They had discharged their feces going out and coming back. The result was, I saved all but two queens.

In the same volume, page 129, Mr. S. Valentine describes how he cured several colonies of dysentery by making an opening 2½x4 inches, covered with wire cloth directly over the cushion. In a few days he found that those that were almost helpless had become dry and bright.

On page 268 of *Gleanings* for 1876, Rev. M. Mahin, D. D., describes a case in which he found the whole interior of his hives dripping wet, and the bees dying through lack of ventilation. He removed the honey-boards and replaced them with pieces of carpet. After a few days he found the hives dry, and the bees healthy.

They both wintered and springed well.

Mr. M. H. Snyder tells, on page 583 of *Gleanings* for 1881, how he saved his bees, which were dying of dysentery, by raising the hives above the bottom board and loosening the enamelled cloth with which they were covered. A few days after, all were dry and in good condition.

On page 593, of the same volume, Mr. G. W. Stitts tells how he cured two colonies half-dead with dysentery, by heating the hives and packing hot cushions and hot bricks over them, and by repeating this once a week for three weeks, they were effectually cured.

On page 452, of the same volume, Dr. Jesse Oren relates how he succeeded in wintering bees in box-hives by inverting them and tying them up in the cellar; how, he also succeeded with Langstroth hives in the same way, leaving the holes in the honey-board open, and keeping them apart by strips of wood, and how, when this was neglected, he had dysentery in his strongest colonies early in the winter. He says: "I took off the honey-boards, shoving them forward about 2 inches, and then re-piled the hives. This soon ended the dysentery. Bee-bread may have excited the disease, but ventilation ended it with me." It will be at once seen that the above are clear cases of cures by improved ventilation, giving the bees a chance to dry out. Comment is unnecessary.

Lindsay, Ont., March 7, 1883.

For the American Bee Journal.

Reply to Dr. Tinker.

JAMES HEDDON.

I may be in the dark regarding the popularly supposed great advantages of the Langstroth shallow air-chamber above the brood frames, and the surplus receptacles. I may also be in error regarding my supposition that almost all practical producers were enjoying said advantages. I did really think that most of the more experienced bee-keepers, who read our controversy, were laughing at the idea of the barbaric method of resting the sections, or any bar that might support them, down flat on the brood frame top bars.

The Doctor thinks it "strange" that the bees will go through a honey-board and two air-chambers and enter the surplus receptacles just as soon as the flow of nectar begins. Now, Doctor, all that you need is proper arrangements, and the "strangeness" will all resolve itself into simplicity. I would tell you all about these arrangements if it was not for the fact that I am foolish enough to be using these things that I have found best, and tricky enough to be selling just what I use, and you would then accuse me of "advertising."

I am glad that the Doctor and I see nearly enough alike about the half-pound sections, that we mean to give them a trial the coming season.

The Doctor should have quoted some one beside Mr. A. G. Hill as authority in favor of the ancient practice of resting the sections directly on the brood frames. I wonder at his judgment in selection. I have long tried to get a missionary to visit Mr. Hill, but all are afraid of being eaten. Such things have occurred. Well, Doctor, let us leave the matter of the advisability of leaving out the third claim of Mr. Langstroth's invaluable patent to the judgment of the future practice of bee-keepers. It took years to teach us the numerous advantages of this "shallow air-chamber," but we learned it to stay (I think), and it is my sincere conviction that none will do without its splendid features long. Upon this subject, I long ago "cast out the beam," and feel sure the Doctor will cast out his, ere long.

Dowagiac, Mich, April 5, 1883.

For the American Bee Journal.

Results of My Winter Packing.

E. C. CRANE.

Having had many inquiries concerning the result of my manner of packing, I desire to answer them in the columns of the BEE JOURNAL.

I had 12 colonies, spring count, in 1882; sold 15, and furnished 12 swarms for the woods. I sold 2,000 pounds of comb honey in one and two-pound sections, at an average of 17½ cents per pound, and put 37 colonies into the cellar and 12 on the summer stands, in a shed, open to the south, for the winter, making 49 colonies in all.

I use the improved Quinby hive in preference to four or five other hives I have tried, or any other kind, all things considered. The large (11x18) sensible frames for the brood-chamber, with their two movable division-boards, gives the operator the most perfect control, in directing the energy of his bees to the special object desired, in the different honey flows of the season, enabling him to produce comb honey, extracted honey, or bees, at will. The details of each are supposed to be understood by any old reader of the BEE JOURNAL.

In the fall I select from five to eight of the best brood-frames, with ripe capped honey, on the upper edge and down to the end of each frame, with division-board each side, and blanket or honey-board raised enough for the bees to climb over the tops of the frames; also holes in the combs for runways; then fill with dry leaves, chaff or straw, 3 or 4 inches thick down the sides, to the floor of the hive, and also on the top of the frames, up to the cover, leaving their packing chamber ventilated. I have also used a ventilating chimney with one-inch bore 5 or 6 inches long, with wire screen on top, from the top of the brood-nest to the top of the packing. I do not consider this very essential for cellar packing where the cellar is properly ventilated.

I filled the summer shed with corn stalks a foot deep. I set the hives, packed as above described, one foot

apart, 8 inches from the back side, covering the whole with dry leaves between, behind and on the top, to the depth of 2 feet, leaving the entrance holes open to the south. Those, in the summer house, had a vigorous flight on Jan. 1, 17, 24, 28 and Feb. 4, 11, 17 and 18.

The cellar is 15x30 feet, under a brick house, finished for the purpose, and is clean and dry, with a cement bottom, and it contains nothing but bees. It is ventilated with a 7-inch stove pipe, entering the chimney, 5 feet from the floor, with an elbow running down to within 1 foot of the floor, having a draught sufficient to suck up a dry leaf or small paper from its mouth. I never lost any bees in that cellar. I carried out my 37 colonies on Feb. 27, all strong and in good order. Having sold some, I now have 45 colonies, all containing eggs and brood; some living drones at this writing.

Burlington, Iowa, April 9, 1883.

For the American Bee Journal.

Raspberry Honey, Etc.

A. E. FOSTER.

I noticed in the JOURNAL, a few weeks ago, an article asking for information about the quality of honey obtained from raspberry blossom. I believe the article has not been answered yet. I hope some one, who has had a large experience with raspberry honey, will give us "light." I read an item in one of our leading papers, not long since, saying that the honey obtained from raspberries is of an inferior quality, and unfit for the markets.

It looks as though the season had opened in earnest here. To-day, the bees are as busy as can be, bringing in natural pollen. The following is an item about bees in the South laying up stores of honey. Is it true?

Covington, Ky., April 8, 1883.

THE RECKLESS BEE.—An experimenter in Southern agriculture told me the following concerning of Northern bees in the South. He took a colony of the little gratuitous honey-makers down to Florida. The first year they revelled, thrived, and stored honey nearly all the unvaried summer time. But the second year, a few of the more reflective bees evidently turned the thing over in their minds thus: "This country has no winter to provide against; what is the use of laying up honey, where the flowers blossom all the year round?" These bees exerted enough influence among their friends to keep a good many bees from laying by any sweet merchandise the second year of their exile.

But the prudential instinct so strong in the little insect prevailed with the majority. They evidently said to themselves: "Perhaps this has been an exceptional year. Next season may bring cold, and snow, and dearth of flower." So there was quite a stock of honey laid by on the second year, in spite of a few strikers. But by the third year the conviction had evidently

thoroughly penetrated the bee mind that it was foolish to lay up, in a land of eternal blossom. They made just honey enough to last from day to day, and abandoned themselves to living from hand to mouth as recklessly as does the tropic-born butterfly.—*Washington Gazette*.

[No! There is no truth in it. It is but the idle scribbling of a newspaper correspondent, who thought he would get up a sensation by telling an exciting story.—ED.]

For the American Bee Journal.

The Langstroth Frame.

J. B. MASON.

On page 144 of BEE JOURNAL for March 14, Mr. H. D. Edwards criticises my article on page 21 of January 10, 1883. He says I do not state the advantages of the Langstroth frame, and asks why we should adopt it, when the advantages are so few that I have not seen fit to give them. My own idea, formed after long experience with them in my own apiary is, that its advantages are many; in fact, that it contains more real good points than does any other frame; else why is it so fast coming into general use, and that too with practical bee-keepers? Would any one be insane enough to adopt it, if it was not, to say the least, as good as any? I will endeavor now to take up the challenge of Mr. Edwards, and give some of the advantages possessed by the L. frame. First, their now being more largely in use throughout the country than all others combined; by now adopting it, one puts himself on the same track with the great majority, and can easily interchange frames with them, without transferring; as it bids fair to soon become the standard of the country, by using it we are up with the times, and not falling behind. I said it bids fair to become the standard; my reason is, that ere long some standard size will be adopted, and as the Langstroth frame is so largely in use, and so well liked by the unprejudiced, who have given it a fair trial, it will be more easy to adopt it than any other; in fact, it will be utterly impossible to adopt any other as a standard, for all others are now fast giving way to it, and no one will purchase on a falling market.

The reasons why some standard will ere long be adopted, is so patent that I need not take time or space to give them; it is obvious to all that it must come, and when it does, apiculture will take a fresh start. So far as profit is concerned, I care not what style of frame is desired, but I notice that those ordering hives from all sections of New England, at least 95 per cent. of them are for the standard Langstroth, and we may be sure that the climate of New England is pretty severe, to say the least.

My experience is directly opposite to the statement of Mr. E. who says it is generally conceded that bees in a deep frame winter better than in a shall-

low one. I admit that it once was the case, and that the American frame 14, and even 16 inches deep, was extensively introduced, but they are fast being thrown out, and their places taken by the Langstroth frame. Experience showing that the wintering qualities of a deep frame was a matter of theory, not well backed up in practice.

The fact that the Langstroth frame can be made more cheaply than any other might be an inducement on the start; but practical men do not care for the slight difference, if they get a better article; so that argument does not carry enough weight to be worth answering. It answers itself at once.

The Langstroth frame has the advantage of being the best and most economical in form, so far as the use of sections is concerned. The sections are placed over the brood chamber, close to the bees, where all the heat of the hive is economized, and the size is such that the space is fully economized and all taken up without loss; this of course is a great advantage, and one that recommends itself to all.

To sum up, the only real objection made to the Langstroth frame is, that it is not best for winter in cold climates. Assertions amount to nothing; it is facts we want. How are the facts, and how do they show up? Mr. E. E. Hasty says it is the best for wintering in cold climates, and he makes the statement from results of experiments in his own apiary. Mr. Bingham says it is too deep, if anything, and he uses (and successfully too) in a cold climate, a frame only 6 inches deep. I apprehend that the objections to the Langstroth frame is largely a matter of prejudice. Some one (no matter who) started the idea in opposition to the Langstroth frame that a deeper frame was better, and the American hives met with large sales; but they are fast being superseded by the Langstroth frame. The public begin to learn that theories put forth by interested parties are not always found, in practice, to be true. With deep frames it is difficult to tier up two or three stories, and this is a serious objection.

The extractor plays so important a part in the management of an apiary, that the best reply I can give to any one who says that the Langstroth frame is too shallow to winter well, is, I do not care whether it is too shallow or not; it does well for wintering, and those who have given it a fair trial say it is better than deeper frames.

I have not space now to give the scientific reasons why a shallow hive, of the depth of the Langstroth, should be better for wintering than a deeper one, but may make that the especial subject of another article; in fact, I do not know as we need to inquire the reasons why a thing should be, when we know that it really is.

The evidence in favor of the Langstroth frame is found in the fact that it is so generally used, and that too by practical men; and in the favorable reports that they make in regard to it; and if the unfavorable criticisms that are made against it were less

theoretical, more strongly backed up by proof, and come more largely than they do from persons not interested in some other style of frame, I should consider them more worthy of confidence, as advice; and of far more weight in favor of their adoption.

Mechanic Falls, March 26, 1883.

For the American Bee Journal.

A Brief but Kind Reply to Prof. Cook.

E. B. SOUTHWICK.

MR. EDITOR.—My article on the one-piece section drew out some remarks from our mutual friend, Prof. Cook, which, in self-justification, requires a brief reply from me.

I am not a Christian, because I am too selfish to love my neighbor as myself. I cannot leave father, mother, wife and children to follow Christ; I love them too well. Can the Professor do this? If so, he may be a Christian, while I am not. But, perhaps, it was the other part of the sentence, that he thought differed from Christian teachings; that is, "Do right because it is right." The Professor has made the mistake of confounding Christianity with morality. Christianity is the name of one of the many religions of the day, while right and wrong existed when all these religions had yet to be brought into being. As to the good and moral examples and teachings of Christ, I am as much of an admirer as Prof. Cook. I can say

"I admire the truth, wherever found.
Whether on Christian or on heathen ground."

For example: I find the golden rule taught by Christ; I admire it there. I find the same taught by Confucius (that heathen Chinese), 500 years before Christ; I admire it there. I find the Bible directs us to honor our father and mother. I also find the same teachings in the old Egyptian religions that were established before the Bible was thought of; and I admire them in both places. All the difference between the Professor and myself, I think, is that he loves the teachers of these, and I love the teachings themselves.

The Professor says I worship right. Well, I think he will admit then that the God I worship is as good as the best, and that he will cheerfully add justice and truth, forming a trinity, over which we can extend to each other the right-hand of fellowship, and unite with Pope in saying:

"What conscience dictates to be done,
Or warns me not to do,
This, teach me more than hell to shun,
That, more than heaven pursue."

Mendon, Mich., April 2, 1883.

[THE BEE JOURNAL is "devoted exclusively to progressive bee-culture," and discussions of religion, politics, and many other interesting topics are all inappropriate in its columns. Prof. Cook and Dr. Southwick now have had an opportunity to explain their remarks in a discussion of the patent-section controversy,—let this end the present discussion.—ED.]

For the American Bee Journal.

Those Big Bee Stories.

M. M. BALDRIDGE.

During 1882 the "boys," in various parts of the country, had "lots" of "fun" telling "yarns" about big crops of honey and immense profits by "fooling with bees." Those "boys" in Texas rather got the start of the rest of us and carried off the belt. It is rather early to begin those "yarns" for 1883, but I don't propose to let the Texas "boys" get the start this year, so I will head the list with what one of our "boys" did, as long ago as 1860, to wit:

A TRUE BEE STORY.—On the 1st of February, 1860, the Rev. Hiram Hamilton had 35 colonies of bees near Stockton, California. Twenty-five were in small Langstroth hives, containing about 1,400 cubic inches, and the balance were in larger hives containing about 2,000 cubic inches. At the above date all the bees were moved from Stockton to Santa Clara, California, and they remained there till July 1, just five months—at which date they had increased to 270 colonies. The honey season having closed at Santa Clara, the bees were moved back to the vicinity of Stockton, whence they started, and by Oct. 1, 1860, there were 500 colonies! The 10 colonies in large hives increased to 75 and gave 4,500 lbs. comb honey. The 25 in small hives increased to 425 colonies and gave 16,275 lbs. comb honey! From the 35 original colonies there were at the close of the honey season in 1860, 20,775 lbs. of comb honey, and an increase of 465 swarms, and all of this was secured without purchasing any bees or any feed! They were simply managed skillfully and intelligently, by following the teachings laid down in Mr. Langstroth's excellent book, aided by a magnificent harvest in two very fine locations for honey.

As honey was worth, in California, about \$1.00 per pound in 1860, and as colonies of bees were then in good demand, at about \$100 each, let us see how this figures:

465 swarms, at \$100 each.....	\$46,500
20,775 lbs. of comb honey at \$1.00 per lb.....	20,775
Total.....	\$67,275

This, divided by 35, gives a profit (?) of \$1,922 per colony! Now divide 20,775 lbs. of honey by 35 and we have an average of 594 lbs. of comb honey per colony! It will be seen that the 10 colonies in large hives gave an average of 6½ swarms and 450 lbs. of comb honey per colony; also, that the 25 colonies in small hives gave an average, per colony, of 16 swarms and 651 lbs. of comb honey!

The above discloses the important fact that the small hives were the most profitable for both swarms and honey, which accords with the experience of the best bee-keepers of today. The fact is also disclosed that it does pay sometimes to move bees from one honey range to another.

Inasmuch as I have headed the foregoing as "A True Bee Story," it may now be well, lest some of the "boys" may have some doubts about

it, to cite my authority: Many of the facts enumerated will be found recorded on page 126, first volume of this BEE JOURNAL.

Now "boys" don't let this "yarn" discourage you "one bit," but press on and let us see who will be the first to equal or even surpass, in honey and swarms, the extraordinary success of Mr. Hamilton—for I have my doubts of its having yet been done.
St. Charles, Ill.

For the American Bee Journal.

How to Transfer Bees.

A. RICE.

When it is settled and warm weather, and bees are working finely, take the hive containing the bees to be transferred, to some shady place, or to a work-house away from its own stand, as bees do very little fighting away from home. Immediately place an empty hive or box in the place of the hive taken away, to receive the returning bees, thereby keeping the bees from going into a neighboring hive, that might be standing near. Turn the hives to be transferred, bottom side up; notice carefully the condition of the comb, selecting the side of the hive from which the comb can be most readily removed, after which place some box, nail keg, pail, or anything that will partly or fully cover the hive. With hammer and chisel remove the side of the hive selected. Having given the bees a little smoke, a few moments before removal, after removing the side of the hive, a little more smoke may be given, to drive the bees from the first comb, which may then be removed to the frame; return to the hive and proceed as before, until the last piece of comb is taken from the hive, at which time the bees will have transferred themselves to the box or hive at their original home, or have passed up into the box that you placed on the top of the hive. After the best of the comb (leaving most or all of drone comb out) is transferred, take the hive to its original stand, and shake the bees from the box or boxes, on a sheet in front of the hive, as in the swarming season. Very thin splints, from pine or cedar, such as will split finely, should be in readiness, 30 to 40 to the hive, securing two splints to 6 or 8 frames, with small tacks, that they may be easily removed, and ready to receive the comb. After placing the comb, tack two splints on opposite sides of the frame.

From one to three weeks after the bees have secured the comb to the frames, the splints should be removed; after this work is finished, close the hive, so that very few bees can go into the hive at once, lest the bees may be robbed.

Where several colonies are to be transferred, change the transferring stand to a new place, after transferring each one, to keep away from robber bees, which, at times, are very troublesome.

Do you ask when I did the drumming? I did all the drumming necessary in cutting nails and removing

one side of the hive. I can ordinarily transfer a colony while others are drumming the bees.

From taking the hive from the stand and replacing it, as little time as possible should be lost. It is, therefore, very necessary that everything be in readiness, and all done as quickly as possible. It will be observed, that by keeping a box or receptacle on top of the hive, during the transferring, it is nearly or quite impossible to lose the queen, which is of first importance.

Davis Junction, Ill.

For the American Bee Journal.

Selling Honey in My Home Market.

W. C. NUTT.

I have taken quite an interest in the discussions in regard to the merits of the different size of sections. I think we, as producers, should be very careful about changing to a smaller sized section. I have had some experience in furnishing grocery-men with both comb and extracted honey. I have not, as yet, used less than the two-pound section. I was thinking of trying some one-pound boxes this season, but have about concluded to continue with the two-pound sections for the present.

In conversation with a merchant, last fall, I remarked that, perhaps, I would furnish my honey in a little nicer shape the coming year, as I thought that I should use some one-pound sections. He remarked that two-pound boxes were small enough for him to handle. I should expect to sell in my market a two-pound, one-pound, or half-pound section for about the same price per pound.

I use the one and two-pound glass jars for extracted honey; I sell at 15 cents per pound; charging 10 cents extra for jars, and taking them back at the same price. Grocery-men generally sell for me on 10 per cent. commission where cash is paid me after the honey is sold; or even trade, if paid in goods. My two-pound jars seem to have the preference. I am quite sure that the half-pound sections would not pay in my market, and will never be called for unless put on the market.

I examined my bees yesterday; all answered to the roll call, and most of them are apparently in good condition. Some four or five, out of the 66 colonies, show signs of dysentery. I have taken up a considerable number of bees from the floor. I attribute so great a number of dead bees on the floor to the colonies being so strong when put into winter quarters. The cellar is very dry, and is kept dark. For ventilation the outside door is opened occasionally. The winter still hangs on.

Otley, Iowa, March 31, 1883.

The spring meeting of the Cortland Union Bee-keepers' Association will be held in Cortland, N. Y., on Tuesday, May 8, 1883.

M. C. BEAN, Sec.

Convention Notices.

The Mahoning Valley bee-keepers will hold their 13th meeting in the Town Hall, at Berlin Centre, Ohio, on May 5. All bee-keepers, and the public in general, are invited to attend. Do not forget to bring your wives, children, and a well-filled lunch basket. We expect a grand meeting.

L. CARSON, *Pres.*

H. A. SIMON, *Sec. pro tem.*

The semi-annual meeting of the Western Bee-Keepers' Association will be held at Independence, Jackson County, Mo., on Saturday, April 28, 1883, at 10 a. m. Papers prepared for the occasion by the president, secretary and others will be read, and matters of general interest to bee-keepers discussed. A general attendance of persons interested in bee-culture is requested. The present membership of this Association control 2,000 colonies of bees.

S. W. SALISBURY, *Sec.*

Kansas City, Mo.

J. A. NELSON, *Pres.* Wyandotte, Kas.

Quite a number of the leading bee-keepers of Missouri and Kansas met at the Court House, in Independence, Mo., December 23, 1882, and organized a bee-keepers' convention, which was named the "Western Bee-Keepers' Association," by electing the following officers for the ensuing year: Jas. A. Nelson, of Wyandotte, Kans., President; L. W. Baldwin, of Independence, Mo., Vice-President; S. W. Salisbury, Kansas City, Mo., Treasurer. The Association passed a resolution to invite all bee-keepers within a convenient distance, to meet with us at our next meeting and lend us their councils. Adjourned, to meet again at Independence, on the last Saturday in April next, at 10 o'clock, a. m. J. D. Meador, P. Baldwin, C. M. Crandall, *Committee.*

The spring meeting of the Western Michigan Bee-Keepers' Association will be held at Supervisor's Hall, Grand Rapids, April 26, at 10 a. m.

F. S. COVEY, *Sec.*

Coopersville, Mich.

The Union Bee-Keepers' Association will meet in Grange Hall, Eminence, Ky., on Thursday, April 26, 1883. All bee-keepers, and the public generally, are invited to be present.

G. W. DEMAREE, *Sec.*

Christiansburg, Ky.

The Iowa Central Bee-Keepers' Association will hold their semi-annual meeting at Winterset, Iowa, on Friday, May 11, 1883. All interested in anything pertaining to bee-culture are invited to attend, and bring anything that will be of interest to the bee fraternity.

J. E. PRYOR, *Sec.*

A. J. ADKISON, *Pres.*

SELECTIONS FROM OUR LETTER BOX

Bees in Fine Condition.

I imagine all bee-keepers wish to know how bees have endured the past almost unparallel winter. My bees are in fine condition, only two having died, and only one weak.

T. F. BINGHAM.

Abronia, Mich., April 6, 1883.

A Bee Hive 60 Years Old.

I put into winter, last fall, 29 colonies of bees; and they are all right yet, but March has been very hard on bees in this part of the country. It has been cold and freezing nearly all the time. On June 14, 1881, I drove a swarm, for a neighbor, out of a box hive that was 60 years old; it had been put in when the box was new; and when I drove the swarm, it was so rotten I could hardly handle it; there were cracks and holes from top to bottom; it stood the hard winter of 1880-81, without any protection, and the bees were very strong in numbers when I drove the swarm. I cut out a lot of sealed comb out the bottom, and nine days after I had taken the first swarm, it cast a second, and on the eleventh day, it cast a third; this hive had never been known to give a swarm in all the 60 years before. Now, if you have an older bee hive than this one, I would like to hear from it. That bee hive would hold about 2 bushels. The bees are alive and doing well yet, and, of course, that colony will be 62 years old this spring.

WM. ASHCOM.

Ligonier, Pa.

Working on Elder and Maple Blossoms.

My bees had the dysentery this winter, but we had a few very nice days here, and they were all out, and it has cured them. I had 12 colonies last fall, bought 2, and I found 4 colonies dead this spring. The bees are working on elder and maple blossoms.

O. PARKER BAKER.

Woodberry, Md., April 4, 1883.

Bees in Florida.

Bees are hard at work bringing in a bountiful harvest of saw palmetto honey. This harvest will last for two or three months yet; then comes an even better flow from the cabbage palmetto and mangroves, as fine honey as was ever extracted. The prospects are that we will have a very good season this year. I know one bee-keeper here who has extracted over 5 barrels of 45 gallons each from only 23 colonies of black bees, already this year. How does that compare with what bees have done so far this season up North? I consider this region the "Ne plus ultra" for bee-keepers. We do not discuss "wintering," "dysentery," etc., but "Where can I get barrels to put my honey in." The JOURNAL is a most welcome visitor here.

HARRY G. BURNET.

Myers, Fla., April 2, 1883.

Bees Strong and Healthy.

Bees, in this section, have wintered very well, to this date, considering the long confinement to their hives (from Nov. 25 to March 1), and the severe cold weather, 10° to 12° below zero occasionally. The loss of bees on summer stands to April 1, will not be over one-tenth per cent. On Saturday morning, March 31, there was 4 inches of snow, and it was 12° above zero. I have never before known such cold weather on that date of March. I think many bees will need feeding, to save them till blossoms open. They have carried no flour in, to this date. Most of the colonies are strong in bees.

H. H. BROWN.

Light Street, Pa., April 2, 1883.

Bees in the Woods.

Again my bees are on scaffolds and benches on account of the floods. They seem to be in splendid condition, and are bringing in honey and pollen with a rush. I expect soon to have swarms coming out. I would say a word about bees in the woods in Arkansas. While in the woods, a short while back, I found 4 bee trees within 50 yards of one another, and among them was a swarm of well-marked hybrids. This was 12 or 14 miles from my own apiary. I am the only one that has Italian bees in these parts; it would be surprising to any one that has never been in the bottoms of Arkansas, to see the number of bees in the woods. I have found as high as 9 bee trees in a single day. They are mostly yellow bees, with occasionally some hybrids. I intended to say that one of the 4 that I lately found, had built outside of the hollow 2 feet long and about a half dozen sheets, and the bees seemed to be working in it, and also in a hole by the side of the combs.

W. G. MCLENDON.

Lake Village, Ark., March 27, 1883.

Bees in the Cellar All Right.

I put 21 colonies in the cellar, last fall, and they are all right, so far. I gave them a flight in March, and then carried them back to the cellar again, where they are still, and will remain for some time yet. I have practiced the above plan for three winters, and never lost any in wintering yet. All my losses have been from robbing in the fall.

H. H. HAMMOND.

Pre-emption, Ill., April 9, 1883.

Bee-Keeping in Tennessee.

Scientific bee-culture is not known in this country, but a considerable interest is expressed by a few men here. Mr. Wm. Anderson keeps 150 colonies, David England has 24, Eliza England 150, Dr. O. G. Broyles 25, Geo. Cole 30, Crockett Lowry 30, Frank Cope 20, myself 16. Most of them in some kind of movable frame hives, but none of them are manipulated very much. There are a great many others who keep bees in log gums. No more honey was gathered, last season, than was consumed, and mine consumed 120 lbs. of sugar, extra. Our principal source of honey here,

for surplus, is poplar from April 25 to May 15; blackberry from April 22 to May 20; June not giving much; then comes sourwood, a great yielder of honey, clear as crystal, during July. Along our mountain caves, linden or basswood comes in June 20, lasting only a week or ten days; on some farms white clover grows profusely, but in my little experience, not much honey has come from it; it blossoms April 30 to Sept. 30. Last year I kept a record of the time of blossoming and of honey yield, of all the different kinds of plants and trees upon which I saw bees at work. The articles of Messrs. Heddon and Doolittle, in the JOURNAL, are just splendid, but they have collided on the building up or stimulating early breeding question.

J. A. P. FANCHER.

Fancher's Mills, Tenn., Mar. 29, 1883.

Swarming in Tennessee.

The honey crop in this section, last year, was a failure; less honey being produced than any year since I have been in the business, which dates back to the year 1874; and, consequently, the loss of colonies, this winter, has been very heavy. Many have lost half; the average loss, I think, will be about one-third. When the winter set in, I had 185 colonies; this spring I still had 140, some of them not doing well, but the most of them in good condition, working finely, bringing in pollen and some honey from peach bloom, and it looks as though the swarming fever was beginning to run over them. One of my neighbors had a fine swarm on the 3d inst.

J. W. HOWELL.

Kenton, Tenn., April 7, 1883.

Bees All Right So Far.

I placed 80 colonies of bees in the cellar on Dec. 7 (a part with top, and apart with bottom ventilation); but as they have all come through without the loss of a single colony, it does not prove anything on that point. My cellar is 22x30; the fire flue extends to the bottom in the centre, with a 6 inch ventilating tube. The thermometer has ranged from 32° to 35°. The loss of dead bees was about $\frac{1}{4}$ of a bushel; our coldest day was March 5, when it was 8° below zero. Those who have wintered their bees on the summer stands, without protection, have lost about 50 per cent. of them. My bees have consumed a very small amount of honey, and are in splendid condition.

C. H. FRANCE.

Erie, Pa., April 9, 1883.

Planting for Honey.

I notice in, the BEE JOURNAL, that John H. Martin has made a failure of one of the best honey plants there is (in my opinion), viz.: sweet clover. Having had some experience in sowing, I will give it to the readers of the excellent BEE JOURNAL. In the fall of 1881 I sowed an acre on fresh-plowing, harrowed it over lightly, and awaited the results. In the spring of 1882, not seeing enough young plants to insure a good stand, I sowed the same ground again with the same

amount of seed; also, about $\frac{1}{4}$ of an acre as Mr. M. says, gravelly loam; the result is as good a showing of plants from 6 inches to 2 feet high as any one could desire. It will grow in almost any place, that anything else will grow; even in the fence corners where the soil is never disturbed. I also have had some experience with the Simpson honey plant. Last year I sowed it with catnip, mustard and motherwort, and I have a showing of all of them. The figwort grew 3 or 4 feet high, and after the other bloom had almost entirely failed, the bees were swarming on it until frost stopped them.

J. E. PRYOR.

Arbor Hill, Iowa.

Success in Wintering.

I put into winter quarters, on Nov. 23, 170 colonies of bees (108 in two bee houses, and 62 in the cellar). I took them out of the bee houses on March 1; those in the cellar, on March 9; all in splendid condition except two, which were queenless. Nearly all appear as strong as when put into winter quarters; all have plenty of honey. I use honey-boards, and fill the caps with fine shavings; and give no direct upward ventilation. I have an inch auger hole in the front of the hive, a little above the centre, which is kept covered with perforated tin. I give the same ventilation at the bottom of hive, as I do in summer, and keep the temperature at 42°, as near as possible. I have always had good results when I have wintered in this way; but this winter better than ever. I prefer indoor to outside wintering, and I have tried both.

H. F. PUTNAM.

Galesburg, Ill., April 4, 1883.

Good Work for an Amateur.

We could not do without the BEE JOURNAL; even at three times its cost. We had 2 colonies of black bees in the spring of 1882; increased to 7 by natural swarming and division; have now also 1 colony of Italians. We have lost none this winter (pretty good for an amateur, thanks to the BEE JOURNAL and Cook's Manual), although they were imprisoned for months without a flight, which they enjoyed yesterday and to-day, to the fullest extent. We took 200 pounds of comb honey. We intend to fill 15 hives the coming season. We wintered in a clamp, packed with shavings.

A. C. PARFEY.

Richland Centre, Wis., April 9, 1883.

"Saved the Queen."

As I am one of the many "bee mourners," I am not discouraged yet. I put into winter quarters 18 colonies of Italians, with good stores of honey. Up to date, I have lost seven of that number, and, all but one, left "good estates" of honey. Among the number lost, was my choicest Italian. The queen I purchased from H. A. Burch & Co., in 1881. The 2d of this month I cleaned them up, and in "removing the dead" bees, I found the remains of my prize queen. I carefully removed her to a

shelf in a warm room; after a few hours, to my great surprise, I noticed her crawling up on a pile of papers. I at once made ready to save her, by fitting up a nucleus hive, with three frames, in which I found quite a "good showing" of larvæ and young bees; and, to-day, I examined the hive and found a nice supply of eggs.

H. B. HAMMON.

Bristolville, O., April 9, 1883.

Gathering Pollen and Honey.

Our bees are gathering an abundance of pollen and some honey; soft maple, willow and elm are the sources. The condition of our bees are just the reverse of what it was a year ago, at this time. Our 53 colonies all wintered well; with not even a missing queen, so far. The number of weak colonies is small (4 or 5), but all have hatching brood.

S. A. SHUCK.

Bryant, Ill., April 10, 1883.

Wintered Bees on the Summer Stands.

The winter just over, has been a very cold one. I wintered my 30 colonies on the summer stands. About half of them are weak; the rest of them are strong.

V. FISCHER.

Ironton, Wis., April 7, 1883.

Evaporation of Honey.

1. Has the California honey evaporator, mentioned on page 405 of the BEE JOURNAL for 1882, or something similar, been used in the Northwest, and with what success?

2. How long can extracted honey be exposed to air without injury? Should it be bunged up tight to retain its excellence?

3. Can the rank flavor of fall honey be diminished by evaporation, or any other method.

H. W. FUNK.

Bloomington, Ill., April 9, 1883.

[1. Not, that we are aware of.

2. Almost any length of time. It is better to give it air.

3. No.—ED.]

A Lady's Apiary.

I have 39 fine colonies of Italian bees that I manage all by myself. My place covers a half-block. I have my hives all nicely arranged along on one side of the lot, except some few along the grape arbors. I find it a most delightful pastime for a lady; so much pleasanter and healthful than doing nothing, all the time, in the house. The swarming season is just beginning.

MRS. DR. E. H. MASON.

Vincennes, Ind.

Bees Carrying Pollen.

Bees have wintered with but little loss here. In the fall of 1880 I put 100 colonies in the cellar; I lost all, by dysentery, but one, and that came through in a very weak condition. The cause was poor honey and long confinement. In 1881 I built up 9 good colonies, which I wintered without loss. I sold two last spring, leaving 7, which I increased to 25 last season. I obtained about 400 pounds of

honey. I lost three, the past winter; they were on the summer stands, under a shed, with straw packed behind and between them, and chaff in top story. They carried in their first pollen on the 6th inst.

P. D. JOHNSON.
Bellmore, Ind., April 11, 1883.

Bees Moved in Winter.

I have examined my bees and find them all in good condition; all have laying queens and brood, and some have drones flying. It will be remembered that I shipped them over 200 miles last fall; then I moved them half a mile on a wagon on Jan. 15, and about March 20, I moved them about 65 miles on a wagon. I sold one and have 17 left, out of 18, in good condition; they are all right, except a few broken combs.

L. G. PURVIS.
Oregon, Mo., April 10, 1883.

Got the Wrong Paper.

I am much pleased with the Weekly BEE JOURNAL, and I think it the best paper published. Wishing to get the Monthly BEE JOURNAL for a friend, I subscribed through a news agent here, and not having your monthly on his list, he sent my dollar to the *American Bee-Keeper* published in Mo. I had to send another dollar to you for the monthly for my friend, for the Mo. paper is utterly useless as a bee paper. Can you not see to it that these subscription agents get your Monthly on their lists as well as the Weekly? Please mention this in the Weekly, and it may save some one else trouble and expense.

R. J. & PHIL OSBURN.
Leclair, Iowa, April 10, 1883.

[Perhaps the best way is to send subscriptions direct to this office. "Subscription agents" often get things mixed, and some of them are perpetual annoyances to publishers by their carelessness in giving addresses, sending the subscriptions to the wrong papers, etc. It is but just to say that there are honorable exceptions. We do not remember a single mistake made by Mr. Doolittle of Borodino, N. Y., or the Subscription News Company of this city. If by chance, a mistake should be made, any honorable publisher would correct it without delay. Our Monthly is on the lists of the principal subscription agents.—Ed.]

Almost Discouraged.

Sometime ago, being anxious to see how my bees were (as I had 3 colonies last fall), as soon as I thought it was warm enough, about the middle of the day, I opened the hives to know how the bees were, and found one colony dead, and in the other two I saw no queens; neither am I, at present, able to purchase either queen or colony, and yet, although it is trying, I do not like to say, "class me among the blasted hopes," for I must

try again as soon as I am able, which will not be till sometime in the summer. We have had a sharp winter, sometimes 30° below zero; however, delightful spring is again close at hand, and I trust a beautiful summer will follow.

EDWARD MOORE.
Barrie, Ont.

Offensive Personalities.

MR. EDITOR.—I protest against the manner of discussing questions pertaining to bee culture employed by some correspondents. Friendly controversies upon points of interest to bee-keepers are proper and desirable, but when I read such discussions I want arguments instead of personalities. Nothing can be added to the force of an argument by petty flings respecting the religious opinions of an opponent. It cannot make the slightest difference with the weight of an argument whether the author of that argument believes in this, that or the other "ism," or no "ism" at all. Such methods of discussions are il-liberal and unmanly, and serve only to betray the narrowness of the writer and disgust all candid and fair-minded readers. When a writer has exhausted the facts and arguments on his side of a question he ought to stop, and not rob what he has said of its value (if it has any) by descending to personalities. If he has no facts or arguments to offer, let him leave the space he would otherwise occupy to those who have.

WM. H. FRANCIS.
Frankfort, Mich., April 9, 1883.

[True; one of the most disagreeable things an editor has to contend with is the alarming proneness of human nature to run to "offensive personalities. This is the outcome of a too broad an application of the principle of a "free press." Public men are daily misrepresented and their characters defamed without stint, simply because they are public "targets" for the populace to "shoot at." "Your advice is good and timely," let all remember that while it costs nothing to be polite and kind, it adds much to the comfort and unity of the fraternity.—Ed.]

Bees Without a Flight 145 Days.

My 65 colonies of bees are removed from the cellar all in good condition; they were in it 136 days in all; they were without a flight for 145 days.

F. A. SNELL.
Milledgeville, Ill., April 12, 1883.

Abnormal Swarming.

I have had quite a number of bees swarm out, and go in with other colonies during the past day or two; what is the cause? They left lots of honey, a nice batch of sealed brood, larvae and eggs; the combs were nice and clean; in every case, it is about the same. I have captured a few of them, and returned them; one swarm lost its queen, but proceeded immediately

to prepare queen cells, and now have a nice lot of them started. The rest proceed as usual, and are contented. If you can give me some light on this subject, it will be much satisfaction.

A. J. NORRIS.
Cedar Falls, Iowa, April 10, 1883.

[The causes of abnormal swarming are many; but it is the weak colonies that leave their hives. In this case, we imagine, it is the fact that the frames are too full of honey, which are colder than partly empty combs. Sometimes they can be kept from swarming out, by giving them combs containing pollen, if they have none. They would not go away, if there were not some things distasteful about the hives or their surroundings.—Ed.]

Bees Packed in Dry Sawdust.

I purchased, in the spring of 1882, 3 colonies of Italian bees; increased by dividing to 9, and extracted a little over 500 pounds of honey. We have had a long severe winter, but all have come through in good condition. I packed them in dry sawdust on their summer stands.

WM. E. HARRIS.
South Bay City, Mich., April 10, 1883.

Southern vs. Northern Queens.

In reply to T. S. Johnson, on page 182, I would say that, last spring, I got two queens from Tennessee, one from Kentucky, and one from Michigan. As far as wintering is concerned, I can see no difference; they are all strong and healthy; the hives are as clean and dry as they were last November. I have about a dozen colonies that have soiled their hives some. I find it the same this spring, as usual; the more pollen in the centre of the hive the more dysentery.

MARTIN EMIGH.
Holbrook, Ont., April 11, 1883.

Prospect in California.

On the 28th and 29th of last month, we had 2 inches more of rain, making 8½ inches for the season. Our bees are in fine condition; no swarms up to this time, but I expect them every day. The weather is fine, and there seems nothing in the way for a moderate valley harvest.

A. W. OSBURN.
El Monte, Cal., April 3, 1883.

Best Report on Wintering.

I set my bees out on the 5th inst. Have wintered 241 colonies, without the loss of a colony; all are in fine condition. The hives are mostly full of bees. If any one has a better report on wintering, let them stand up.

H. R. BOARDMAN.
East Townsend, O., April 13, 1883.

Do not let your numbers of the BEE JOURNAL for 1882 be lost. The best way to preserve them is to procure a binder and put them in. They are very valuable for reference.

What and How.

ANSWERS BY

James Heddon, Dowagiac, Mich.

Stimulating Early Breeding.

I would like to have Mr. Heddon answer the following questions:

1. On page 156, BEE JOURNAL, in regard to stimulating early breeding, please explain the proper arrangement of hives necessary to early breeding?

2. What kind of honey board or cover over the frames is best? and of what goods or material made?

3. I use a board made of $\frac{1}{2}$ inch poplar, leaving $\frac{3}{8}$ space between it and the top of the frames. Could I successfully use the feeders you describe, on the top of my hives? My covers are made large enough to come $\frac{3}{4}$ inch down all round the outside of hive, and deep enough to cover 6 inch surplus box.

4. My experience with sweet clover seed has been no more satisfactory than that of Mr. John H. Martin, page 146, BEE JOURNAL. I sowed some early in spring and some late, about April 10; the first on rye, and the last on freshly plowed ground; the latter came up finely and grew till about Aug. 1, after which time I could see no more of it. Give your advice in regard to growing it.

J. A. P. FANCHER.

Fancher's Mills, Tenn.

ANSWERS.—1. Have none but good, normally prolific queens. Such are, in my apiary, the rule. You must not harbor the exceptions. If you use a frame not deeper than the Langstroth, and not more than 8 of them, and keep off all cloths, placing on a board cover with an air space between the cover and the top bars of the brood-frames—with this condition of things no stimulative manipulations are advisable.

2. Do not confound the words "honey-board" and "cover." A honey-board is a perforated board or rack, which supports the surplus honey receptacles, while being filled. A cover is a solid piece, and, as above stated, I prefer a solid board. We use a $\frac{5}{8}$ inch board, and cleated at each end as shown in Fig. 2, letter H, on page 659, of the BEE JOURNAL for 1882. Cover E, as shown in Fig. 1, is about the size, but we have adopted the style of cleating, as shown on shade-board H, Fig. 2. The board is painted all over, and is reversible.

3. Certainly, you can; any of the three feeders I use.

4. I do not feel that my experience with sweet clover, or any other plants, make me the fit person to answer this question. All I can say is, that I should sow mellilot clover in early

spring; early enough so that the frost will crack the hard shell, and thus insure more perfect germination. I sow on all sorts of land, and the bees act as though I had done well, when the blossoms appear.

Tiering up Sections.

1. Will the bees bridge from the honey rack to the bottoms of the sections in the case?

2. Will the tops of the sections be soiled, when tiered up?

3. Will the covers blow off?

4. Will not the heat melt the honey in so thin a case?

5. Do you wedge the sections to one side of the case? J. J. HURLBERT.
Lyndon, Ill., April 5, 1883.

ANSWERS.—1. There will be scarcely any bridging between the sections and the honey-board, and the sections and each other.

2. There will be no noticable soiling.

3. We have no trouble with covers blowing off. We use a 15-pound stone on each shade-board.

4. The shade-board above referred to, breaks the sun's rays from the cases. All hives should be shaded.

5. I do not; wedge all you please, and yet all sections need scraping before crating.

When and How to Use Sections.

Will Mr. Heddon please answer the following questions:

1. When should sections be put on, with reference to beginning of honey season, and strength of colonies?

2. Do you put on a full case of sections at first?

3. Should a case of sections be put on as soon as a swarm is hived? If not, when?

4. Do you use, and deem essential, any other hive cover than the solid honey-board you use?

W. H. FRANCIS.

Frankfort, Mich.

ANSWERS.—1. A good guide for all locations, is when you see new pieces of comb being built between the top-bars and the cover of the hive. This occurs here, generally, when the white clover begins to yield, but sometimes during the flow from cherry, apple and locust trees.

2. Certainly; we put on a full case of 56 pound sections the first thing; the idea that giving the bees a little more room than they will use at first or a little too early will do harm, is not borne out by experiment.

3. When I have a large prime swarm hived on full sheets of foundation, I usually put on one case at once. There is no danger of brood in the sections if the hive and whole arrangement is properly arranged, and often great advantages accrue from so do-

ing. If the swarm is small, the sections will not be needed for 48 hours, and if the frames are empty, or have only foundation starters, usually not before the sixth to eighth day after hiving. Be careful about adjusting the surplus arrangement when you hive the swarm, unless foundation is used in the frames below.

4. I do not use a solid honey-board. There is, and can be no such thing. It is a contradiction in terms. A honey-board is something that the surplus honey rests on while developing, and is always perforated. I use the same cover over the cases that covers the hive,—a "solid board." Over this I use a 2x3 feet shade-board (see cut, Fig. 2, letter H, on page 659, BEE JOURNAL for 1882), and on this a 15 pound stone.

CORRECTION.—"How and What" department for April 11. In my first answer, on page 195, I wish to be understood as saying "no more than one tier high" in the same super or case, but not on the same hive. I believe in and practice the tiering up method, but only one tier of sections in any one case.

Special Notices.

Examine the Date following your name on the wrapper label of this paper; it indicates the end of the month to which you have paid your subscription on the BEE JOURNAL.

For safety, when sending money to this office get either a post office or express money order, a bank draft on New York or Chicago, or register the letter. Postage stamps of any kind may be sent for amounts less than one dollar. Local checks are subject to a discount of 25 cents at Chicago banks. American Express money orders for \$5, or less, can be obtained for 5 cents.

We wish to impress upon every one the necessity of being very specific, and carefully to state what they desire for the money sent. Also, if they live near one post office, and get their mail at another, be sure to give us the address we already have on our books.

Mr. James Heddon announces on another page that he cannot supply any more Hives, etc., in the flat. All interested should notice the advertisement.—Adv.

Ribbon Badges, for bee-keepers, on which are printed a large bee in gold, we send for 10 cts each, or \$8 per 100.

Our Premiums for Clubs.

Any one sending us a club of two subscribers for 1 year, for the Weekly, with \$4, will be entitled to a copy of Bees and Honey, in cloth, postpaid.

For three subscribers, with \$6, we will send Cook's Manual, in paper, Emerson's Binder for the Weekly, or Apiary Register for 50 colonies.

For four subscribers, with \$8, we will send Cook's Manual in cloth, or Apiary Register for 100 colonies.

For five subscribers, with \$10, we will send the Apiary Register for 200 colonies, Quinby's New Bee-Keeping, Root's A B C of Bee Culture, or an extra copy of the Weekly BEE JOURNAL for one year.

To get any of the above premiums for the Monthly BEE JOURNAL send double the number of subscribers, and the same amount of money.

Honey as Food and Medicine.

A new edition, revised and enlarged, the new pages being devoted to new Recipes for Honey Medicines, all kinds of cooking in which honey is used, and healthful and pleasant beverages.

We have put the price of them low to encourage bee-keepers to scatter them far and wide. Single copy 6 cents, postpaid; per dozen, 50 cents; per hundred, \$4.00. On orders of 100 or more, we print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

On the next page may be found the advertisement for a "comb foundation fastener," by D. C. Talbot, of Elroy, Wis., to which attention is invited.—adv.

Farmers, buy for your daughters one of the celebrated McTammany Organettes that plays any tune. Price only \$8. It will make your home a paradise, and you will never regret it. See illustration in another column.—adv.

WANTED—A situation to work with Bees, etc. Address, C. R. Hill, care BEE JOURNAL, Chicago.

SEND POSTAL for my 20 page price list of Italian, Cyprian and Holy Land bees, queens, nuclei and apiarian supplies.

H. H. BROWN, Light Street, Col. Co., Pa.

The Excelsior Smoker Co.'s Cold Blast gets away with all of 'em. You can handle the most vindictive colony without veil or gloves. Send us \$1 and try it. By mail, postpaid. Address W. C. R. KEMP, Manager, Orleans, Ind. 14D3t

Motherwort & Catnip Seeds WANTED.

I wish to buy a quantity of the above seeds, and invite correspondence with any who can supply them. **ALFRED H. NEWMAN**, 923 West Madison St., Chicago.

Honey and Beeswax Market.

OFFICE OF AMERICAN BEE JOURNAL,
Monday, 10 a. m., April 16, 1882.

The following are the latest quotations for honey and beeswax received up to this hour:

Quotations of Cash Buyers.

CHICAGO.

HONEY—The nominal price of extracted is 7c. for dark and 9c. for light—here. The supply is abundant and sales are slow.

BEESWAX—None in the market.

AL. H. NEWMAN, 923 W. Madison St.

CINCINNATI.

HONEY—There is no excitement in the honey market, but sales are fair to our regular trade. Offerings are plentiful of extracted and comb honey. Extracted brings 7@9c. on arrival. The sales of comb honey are very slow, although there is a large supply of first-class quality on the market. It brings 12@18c. on arrival.

BEESWAX—Comes in slowly and brings 20@30c per lb., according to quality. CHAS. F. MUTH.

Quotations of Commission Merchants.

CHICAGO.

HONEY—The demand is light and it is not now probable that all of the comb honey can be sold before a new crop comes. Prices are very irregular and generally low: 15@16c. for white, and dark unsalable. Extracted, very little trade is being done in it. 7@9c. is about the market.

BEESWAX—35@36c.

R. A. BURNETT, 161 South Water St.

SAN FRANCISCO.

HONEY—Buyers are readily obtained for choice comb or extracted at full figures, but off qualities meet with slow sale.

Whitecomb, 14@17c.; dark to good, 11@13c.; extracted, choice to extra white, 8@9@9@9c.; dark and candied, 5@7@9c.

BEESWAX—We quote 30@33c.

STEARNS & SMITH, 423 Front Street.

ST. LOUIS.

HONEY—Very quiet; dull. Comb at 14@16c.—some inferior sold at 10c.; strained at 6@7c.; extracted at 7@8@9c.; lots in small packages more.

BEESWAX—Scarce and wanted at 35c.

W. T. ANDERSON & CO., 117 N. Main Street.

CLEVELAND.

HONEY—Is a little lower, and at the lower price it has moved off a little better of late. 1-lb. sections of best white sold at 18@19c.; second grades, 1-lb., 17c.; 2-lb. sections a little slow at 17@18c. Extracted very dull at 9@11c.

BEESWAX—None in market.

A. C. KENDEL, 115 Ontario Street.

BOSTON.

HONEY—Our market is fairly active. We quote: 1/4 lb. sections at 30c.; 1 lb. sections, 22@25c.; 2 lb. sections, 20@22c. Extracted, 10c. per lb. Good lots of extracted are wanted in kegs or barrels.

BEESWAX—Our supply is gone; we have none to quote.

CROCKER & BLAKE, 57 Chatham Street.

Vandervort Foundation Mill.

6 Inch, Price, \$25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

ALFRED H. NEWMAN,

923 West Madison-st.,

CHICAGO, ILLINOIS.

IF YOU WISH TO PURCHASE

The **BEST BEE HIVE** in the world, send for descriptive circular to

16A1t **C. H. FRANCE, ERIE, PA.**

REST not, life is sweeping by, go and dare before you die, something mighty and sublime, leave behind to conquer time. \$60 a week in your own town. \$5 out-fit free. No risk. Everything new. Capital not required. We will furnish you everything. Many are making fortunes. Ladies make as much as men, and boys and girls make great pay. Reader, if you want business at which you can make great pay all the time, write for particulars to H. HALLETT & CO Portland, Maine. 8A1y

IMPORTANT TO BEE-KEEPERS.

Our new circular and price list of queens for 1883 contains 32 pages and is illustrated to show our new way of rearing-queens. Send your address on a postal card for it. Our new book (200 pages) on

QUEEN REARING

is now ready. Bound in cloth and sent by mail for \$1.00. Those who desire may remit on receipt of book. **HENRY ALLEY,** 13A1t WENHAM, MASS.

Headquarters in the West

Having fitted up our shop with new machinery, we are prepared to furnish all kinds of

APIARIAN SUPPLIES,

Simplicity, Chaff, Langstroth and other hives.

BEES AND QUEENS.

One-Piece Sections, \$5.00 per 1000.

Dunham Foundation at bottom prices.

Silver Hull Buckwheat, \$1.50 per Bushel.

Job Printing done on short notice.

LARGE, NEW LIST, FREE.

BRIGHT BROS.,

Mazeppa, Wabasha Co., Minn.

A10, 14, 16

BE SURE

To send a postal card for our Illustrated Catalogue of Apiarian Supplies before purchasing elsewhere. It contains illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase bees in lots of 10 Colonies or more are invited to correspond.

J. C. SAYLES,

Hartford, Wis.

1883.

1883.

YOU GET VALUE RECEIVED!

QUEENS, BEES AND SUPPLIES

If you want **EARLY QUEENS** from the best improved **genuine** stock for business; or if you want imported Italian Queens or bees, in full colonies or nuclei, with tested or untested queens; if you want Dunham or Vandervort comb foundation, made from **pure** beeswax; or if you want hives or apiarian supplies of any kind, send for my new catalogue. It tells you about introducing queens, new "Races of Bees," etc. Cash paid for clean beeswax. Address

J. P. H. BROWN,

Augusta, Georgia.

5BD15t

THE NEW IMPROVED

STEAM POWER

Comb Foundation Factory

CHAS. OLM, Proprietor,

FOND DU LAC, WISCONSIN.

Best work and pure beeswax is warranted. Send for Sample and Circular. 8D1t

W. Z. HUTCHINSON,

Rogersville, Genesee County, Mich.,

has made arrangements to receive Italian queens from the South, early in the season. The queens will be bred from imported mothers, reared by a thoroughly competent and reliable breeder, and, upon their arrival, they will be introduced to nuclei, until needed in filling orders. These queens will be shipped as soon as it is warm enough in this latitude, probably about May 1st, and they will be used in filling all orders for untested queens until about June 15th, when queens reared in the home apiary will be ready to ship. Before June 1st, untested queens will be \$1.50 each; during June, single queen \$1.25, or six for \$6.00; after July 1st, single queen \$1.00, six for \$5.00, twelve for \$10.00. Tested queens (reared last season in the home apiary), before June 1st, \$3.00 each; during June, \$2.50 each; after July 1st, \$2.00 each. Safe arrival guaranteed. Make money orders payable at Flint, Mich. 14D1t